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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/890,056	01/08/2002	Per- Ake Johansson	STOCK-02	5750
26875	7590	11/26/2003	EXAMINER	
WOOD, HERRON & EVANS, LLP 2700 CAREW TOWER 441 VINE STREET CINCINNATI, OH 45202			STAFIRA, MICHAEL PATRICK	
			ART UNIT	PAPER NUMBER
			2877	

DATE MAILED: 11/26/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/890,056

Applicant(s)

JOHANSSON ET AL

Examiner

Michael P. Staffira

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 August 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6, 13 and 14 is/are rejected.
- 7) ☒ Claim(s) 7-12 and 15 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☒ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

3. Claims 1-6, 13 are rejected under 35 U.S.C. 102(a) as being anticipated by Migdal et al. ('288).

Claim 1

Migdal et al. ('288) discloses a method of determining a surface illuminated by incident light (Fig. 5, Ref. 104, 105, 501, 502) by recording the intensity in light reflected from the surface in a first image and by recording the intensity in light reflected from the surface in a second image taken with another angle of illumination and complementary to the first image (Col. 6-7, lines 53-5) (It is the position of the examiner that the flash sources in Migdal et al. ('288) are on opposite sides of each other and therefore would be at different angles from each of the images and reads on applicants claimed limitations); recording the intensity of only diffusely reflected light over the surface in the two images (Col. 6, lines 53-57); and determination of the difference between the recorded intensities of diffusely reflected light over the surface in the first

and second images in order to obtain a representation that emphasizes variations in the gradient of the surface (Col. 8-9, lines 66-8). (It is the position of the examiner that the 3-D representation of an object acquired in Migdal et al. ('288) produces the same representation of applicant's limitation of gaining variations in the gradient of the surface).

Claims 2 & 14

The reference of Migdal et al. ('288) further discloses a derivative of the height function of the surface (Col. 8, lines 45-65). It is the position of the examiner that Migdal et al. ('288) discloses the height function since in determining the 3-D profile of the surface one would have to know the height functions to produce a profile, and therefore reads on applicant's limitation.

Claim 3

Migdal et al. ('288) further discloses that the difference is normalized by the division by a sum of the recorded intensities (Col. 8-9, lines 66-8).

Claim 4

The reference of Migdal et al. ('288) further discloses that the sum of the recorded intensities over the surface issued to obtain an essentially topographically neutral reflectance image of the surface (Col. 8, lines 46-65). It is the position of the examiner that since the reference of Migdal et al. ('288) only measures the diffusive specular information it is producing the same function as the claimed limitation.

Claim 5

Migdal et al. ('288) further discloses that the intensity of the first image is recorded with light incident from a first direction and that the intensity of the second image is recorded with

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light incident from a second direction that is opposite to the reflection angle of the first direction (Col. 6-7, lines 53-5; See Fig. 5).

Claim 6

The reference of Migdal et al. ('288) further discloses calculating the derivative of the area (Col. 8, lines 45-65).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Migdal et al. ('288).

Migdal et al. ('288) discloses the claimed invention except for determining the topography of a paper surface. It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine Migdal et al. ('288) with topography of paper surface since it was well known in the art that one can use 3-D profiling to obtain many different profile of many different objects including a paper surface in order to improve quality of that object.

Allowable Subject Matter

6. Claims 7-12, 15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

7. Applicant's arguments filed August 18, 2003 have been fully considered but they are not persuasive.

Applicant argues on page 11, that the current reference of Migdal et al. and the current claim limitations have different methodologies. Examiner argues that the scope of applicant's limitations read on the current reference of Migdal et al., and therefore the methodologies have nothing to do with what is claimed, since both are claiming to measure a surface profile. Therefore, applicant's arguments claiming that the current invention uses non-structured light compared to structured light in the current reference falls short, since applicant does not claim these limitations.

Applicant argues on pages 11-12, that the present invention requires the second image to be taken from a different angle than that of the first image etc... Examiner argues that the reference of Migdal et al. clearly shows in Figure 5 that the two light sources on either side of the camera (103) are of a different and complementary angle, which provides symmetry to the surface, so as to provide a 3D surface generation of the object. If one puts an axis down the center of camera (103) and the surface (102) is perpendicular to that axis then one can see that the camera is 90 degrees relative to the surface, therefore the light sources on either side of the

camera have different angles but complementary. It is the position of the examiner that a 3D surface generation provides the same information as to the profile of a surface on an object. Applicant's limitations further fail to disclose the invention as to measuring surface topography and therefore the current reference, which uses structured light, reads on the claimed limitations.

Applicant argues on pages 12-13 that the invention is toward diffusely reflected light. Examiner argues since applicant fails to disclose the methodologies in the claim, then the diffusely reflected light of Migdal et al. reads on the claimed limitations for providing a profile of the surface.

Applicant on page 13, fails to provide any arguments regarding claim 13 as to why it would be allowable, and therefore the rejection that it would be obvious to do 3D profiling of paper surface remains.

Conclusion

1. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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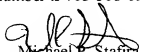
however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael P. Stafira whose telephone number is 703-308-4837.

The examiner can normally be reached on 4/10 Mon.-Thurs.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank Font can be reached on 703-308-4881. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-308-7721 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.


Michael P. Stafira
Primary Examiner
Art Unit 2877

November 24, 2003